Assignment - 1
BASIC PYTHON

Assignment Date	12.09.2022
Student Name	Damodharan R
Student Roll Number	2019115028
Maximum Marks	2 Marks

Question-1:

Split the string. s = “Hi there Sam!”

Solution:

```
lst = s.split(" ")
print(lst)
#-----------------#
#-----------------#
```

Screenshot:

Question-2:

Use .format() to print the following string.

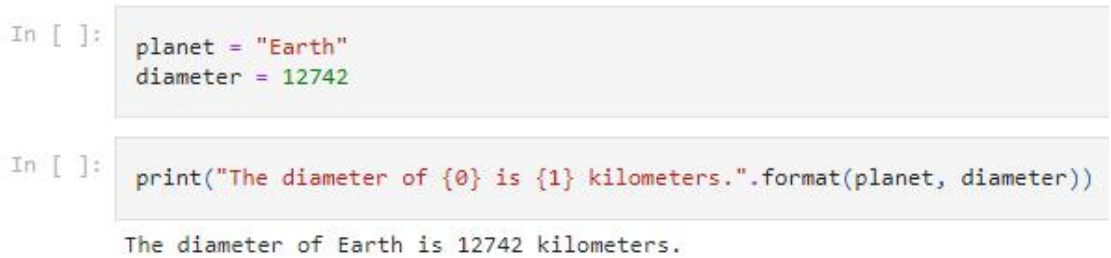
The diameter of Earth is 12742 kilometers.

planet = "Earth"
diameter = 12742

Solution:

```
print("The diameter of {0} is {1} kilometers.".format(planet, diameter))
#-----------------#
#-----------------#
```

Screenshot:



Question-3:

In this nest dictionary grab the word "hello"

d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

Solution:

```
print(d["k1"][3]["tricky"][3]["target"][3])
#----------------#
#----------------#
```

Screenshot:

```
In [ ]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

In [ ]: print(d["k1"][3]["tricky"][3]["target"][3])

hello
```

Question-4.1:

```
In [2]: import numpy as np
```

Create an array of 10 zeros using Numpy.

Solution:

```
import numpy as np
aZeros = np.zeros(10)
print(aZeros)
#----------------#
#----------------#
```

Screenshot:

```
In [3]: aZeros = np.zeros(10)
        print(aZeros)

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

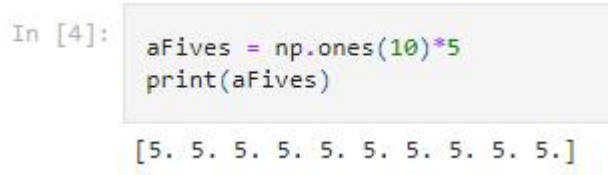
Question-4.2:

Create an array of 10 fives using Numpy.

Solution:

```
import numpy as np
aFives = np.ones(10)*5
print(aFives)
#----------------#
#----------------#
```

Screenshot:



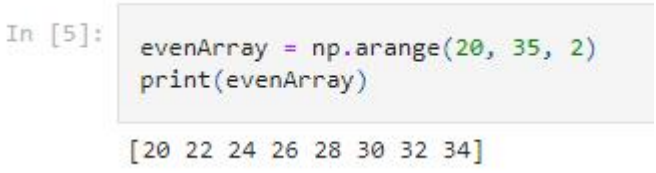
Question-5:

Create an array of all the even integers from 20 to 35

Solution:

```
import numpy as np
evenArray = np.arange(20, 35, 2)
print(evenArray)
#----------------#
#----------------#
```

Screenshot:



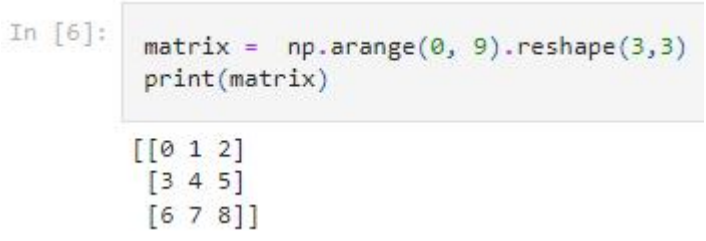
Question-6:

Create a 3x3 matrix with values ranging from 0 to 8

Solution:

```
import numpy as np
matrix =    np.arange(0, 9).reshape(3,3)
print(matrix)
```

Screenshot:



Question-7:

Concatinate a and b. a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

Solution:

```
a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b), axis=None)
print(c)
```

#----------------#
#----------------#

Screenshot:

```
In [7]: a=np.array([1,2,3])
        b=np.array([4,5,6])
        c=np.concatenate((a,b), axis=None)
        print(c)

[1 2 3 4 5 6]
```

Question-8:

```
In [8]: import pandas as pd
```

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
df=pd.DataFrame([[1,2], [3,4], [5,6]] , columns=['column1', 'column2'])
print(df)
```

Screenshot:

```
In [11]: df=pd.DataFrame([[1,2], [3,4], [5,6]] , columns=['column1', 'column2'])
         print(df)

   column1  column2
0        1        2
1        3        4
2        5        6
```

Question-9:

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023.

Solution:

```
import pandas as pd
dates = pd.date_range(start="1-1-2023", end="10-2-2023")
for i in dates:
    print(i)
#----------------#
#----------------#
```

Screenshot:

In [14]:

```
dates = pd.date_range(start="1-1-2023", end="10-2-2023")
for i in dates:
  print(i)
```

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
```

.
.
.

```
2023-09-25 00:00:00
2023-09-26 00:00:00
2023-09-27 00:00:00
2023-09-28 00:00:00
2023-09-29 00:00:00
2023-09-30 00:00:00
2023-10-01 00:00:00
2023-10-02 00:00:00
```

Question-9:

Create 2D list to DataFrame.

lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]

Solution:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
#-----------------#
#-----------------#
```

Screenshot:

In [16]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [19]:
```
df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
```

```
   col1 col2  col3
0     1  aaa    22
1     2  bbb    25
2     3  ccc    24
```